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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,814	04/09/2004	Hiroyuki Ishii	251763US90	8873
22850 7590 09/21/2007 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER SHAHRIAR, CHOWDHURY	
			ART UNIT 2609	PAPER NUMBER
			NOTIFICATION DATE 09/21/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/820,814

Applicant(s)

ISHII ET AL.

Examiner

Chowdhury M. Shahriar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37-CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/04/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,934,556 B2 *Takano et al.* in view of *Das et al.* "Design and Performance of Down link shared control channel for HSDPA."

As to **claim 1**, a radio communications control system for controlling transmission power of a shared control channel for transmitting control signals to a plurality of mobile stations; the system comprising:

A transmission power controller configured to control the transmission power of the shared control channel, in accordance with transmission power of a dedicated channel accompanying the shared control channel, and communication quality of the shared control channel (*Takano* teaches a method of transmission power control comprising multiple mobile stations, base station and transmit power controller, abstract, FIG 1, FIG 2 (mobile station), FIG 3 (base station). The transmission power control is conducted by changing transmission power based on reception quality,

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column 2, lines 58-67 and column 3, lines 1-9. FIG 8 shows distribution of base station power. The channel quality measuring unit 31 of FIG 2 is supplied with the signal from the reception system described above so as to measure the quality of reception of the signal arriving from the base station channel by channel, which can be said as dedicated channel for each link, column 5, lines 3-30. FIG. 3 shows a construction of the base station shown in FIG. 1. The base station comprises a downlink packet channel (HS-DSCH) transmission process unit 41, a common pilot channel (CPICH) transmission process unit 42, a transmission process unit 43 for another channel, a multiplexing unit 44, a transceiver 45, an antenna 46, a dispreading unit 63, a deinterleaving unit 64, a channel decoding unit 65, a converting unit 66, a scheduler 67 and a resource management unit 68, column 5 lines 39-46. But *Takano* does not explicitly disclose shared control channel (HS-SCCH). *Das* teaches a HSDPA provided by means of a new, shared channel (HS-DSCH), abstract, introduction, FIG 1. The downlink signaling is done thorough the use of shared control channels (SCCH) accompanied with HS-DSCH, abstract, introduction, FIG 2. *Takano* and *Das* are analogous art because the both deal with wireless communication environment. At the time of invention, it would have been obvious to a person of ordinary skilled in the art to make the above modification. The suggestion/motivation would have been to use shared control channel to control power transmission. Therefore it would have been obvious to combine *Das* with *Takano* to address shared control channel issue).

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As to **claim 9**, a radio communications control method for controlling transmission power of a shared control channel for transmitting control signals to a plurality of mobile stations; the method comprising controlling the transmission power of the shared control channel, in accordance with transmission power of a dedicated channel accompanying the shared control channel, and communication quality of the shared control channel (Please see similar rejection to claim 1, where the system is further taught by the method as taught by FIG 1 of *Takano*).

As to **claim 2**, the radio communications control system as set forth in claim 1, wherein the transmission power controller is arranged to set the transmission power of the shared control channel, by changing the transmission power of the dedicated channel based on a power offset (The channel quality measuring unit 31 of FIG 2 is supplied with the signal from the reception system described above so as to measure the quality of reception of the signal arriving from the base station channel by channel, which can be said as dedicated channel for each link, column 5, lines 3-30);

and

The transmission power controller is arranged to control the power offset in accordance with the communication quality of the shared control channel (in *Takano*, the channel quality measuring unit 31, determines a power offset to be provided to the base station, based on the result of measurement, column 5, lines 3-15. FIG 4 shows a table listing power offset values reported from the mobile station to the base station, column 6, lines 44-58, which can be said as offset for each dedicated channel. The

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power-offset values are arranged in the descending order of excellence of BLER characteristic. The power offset value to be provided from the base station to the mobile station is determined by level comparison with threshold values, FIG 5(b), column 7, lines 31-35, FIG 11).

As **claim 3**, the radio communications control system as set forth in claim 2, wherein the transmission power controller is arranged to use a block error rate of the shared control channel, as the communication quality of the shared control channel; and the transmission power controller is arranged to control the power offset so that the block error rate of the shared control channel can be a target value (in *Takano* block error rate is used in the controller. BLER indicates a block error rate. The power-offset values are arranged in the descending order of excellence of BLER characteristic FIG 5(b), column 7, lines 9-35, FIG 11).

As to **claim 4**, the radio communications control system as set forth in claim 2, wherein a shared packet channel for transmitting packet data to the plurality of mobile stations is transmitted after the shared control channel;

the transmission power controller is arranged to use feedback information used for retransmission control in the shared packet channel, as the communication quality of the shared control channel; and

the transmission power controller is arranged to decrease the power offset when receiving the feedback information, and to increase the power offset when not receiving

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the feedback information (*Takano* teaches a channel quality measuring unit 31, determines a power offset to be provided to the base station, based on the result of measurement, column 5, lines 3-15. FIG 4 shows a table listing power offset values reported from the mobile station to the base station, column 6, lines 44-58. *Takano* teaches the channel quality-measuring unit 31 of FIG 2 (mobile terminal) is supplied with the signal from the reception system described above so as to measure the quality of reception of the signal arriving from the base station channel by channel, column 5, lines 3-30. A transmission power correcting method or a mobile communication system, in which the source of transmission is directed to raise the transmission power when the reception quality measured at the destination of transmission is lower than a desired reception quality and to lower the transmission power when the reception quality measured at the destination of transmission is higher than the desired reception quality, column 3, line 1-10. So *Takano* teaches about changing power based on feedback.)

As to **claim 5**, the radio communications control system as set forth in claim 2, wherein a shared packet channel for transmitting packet data to the plurality of mobile stations is transmitted after the shared control channel; and

the transmission power controller is arranged to control the power offset in accordance with a service type of the shared packet channel (in *Takano*, the channel quality measuring unit 31, determines a power offset to be provided to the base station, based on the result of measurement, column 5, lines 3-15. FIG 4 shows a table listing power offset values reported from the mobile station to the base station, column 6, lines

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44-58, which can be said as offset for each dedicated channel. The power-offset values are arranged in the descending order of excellence of BLER characteristic. The power offset value to be provided from the base station to the mobile station is determined by level comparison with threshold values, FIG 5(b), column 7, lines 31-35, FIG 11. FIG. 8 shows distribution of base station power according to a second embodiment of the present invention. Of the total power  $P_t$ (100%) of the base station, a maximum of 80% is assigned to the total HS-DSCH power, 10% is permanently assigned to the common pilot channel (CPICH) and a maximum of 10% is assigned to the other channels, column 8, lines 12-15).

As to **claim 6**, the radio communications control system as set forth in claim 1, further comprising a maximum transmission power controller configured to control a maximum transmission power of the shared control channel during a predetermined period;

and wherein the transmission power controller is arranged to control the transmission power of the shared control channel so as not to exceed the maximum transmission power (*Takano* teaches that the number of codes=10 in a downlink packet channel (HS-DSCH). Of the power rating  $P_t$  (100%) of the base station, a maximum of 80% is assigned to the HS-DSCH, a maximum of 10% is assigned to the common pilot channel (CPICH), and 10% is permanently assigned to the other channels. The other channels include an individual physical channel for individual users, and a common control channel, column 7, lines 37-45. FIG. 6 shows default transmission power



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distribution in a base station. So it can be clearly seen as the maximum power is allocated for transmission).

As to **Claim 7**, the radio communications control system as set forth in claim 6, wherein the maximum transmission power controller is arranged to control the maximum transmission power in accordance with a statistical value of the transmission power of the shared control channels (*Takano* teaches that a distributed power of  $P_{hs}/10$  resulting from division-by-10 of total HS-DSCH power  $P_{hs}$  is assigned to a code of HS-DSCH, column 7, lines 45-50).

As to **claim 8**, the radio communications control system as set forth in claim 6, wherein the maximum transmission power controller is arranged to control the maximum transmission power so as not to exceed an upper limit value per each of the shared control channels (*Takano* teaches that the number of codes=10 in a downlink packet channel (HS-DSCH). Of the power rating  $P_t$  (100%) of the base station, a maximum of 80% is assigned to the HS-DSCH, a maximum of 10% is assigned to the common pilot channel (CPICH), and 10% is permanently assigned to the other channels. The other channels include an individual physical channel for individual users, and a common control channel, column 7, lines 37-45. FIG. 6 shows default transmission power distribution in a base station. So it can be clearly seen as the maximum power is allocated for transmission; so there is no chances of exceed the limit).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. U.S. PG Pub 2003/0114181 A1 to *Lee et al.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chowdhury M. Shahriar whose telephone number is 571-270-3318. The examiner can normally be reached on Mon-Fri 8 AM:4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick Ferris, can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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CMS



7/13/02

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